

CLAIMS

1. An isolated cytotoxic factor, associated with multiple sclerosis, said cytotoxic factor being chosen from the heterocomplex GM2AP/GM2/MRP14 and mutated GM2AP/GM2/MRP14 in which mutated GM2AP corresponds to the sequence SEQ ID No. 2.

2. A method for detecting and/or quantifying a cytotoxic factor, associated with multiple sclerosis, in a biological sample, according to which a heterocomplex chosen from the heterocomplex GM2AP/GM2/MRP14 and mutated GM2AP/GM2/MRP14, in which mutated GM2AP corresponds to the sequence SEQ ID No. 2, is isolated from said biological sample.

3. The method as claimed in claim 2, according to which the heterocomplex is isolated by means of at least one antibody that binds specifically to the heterocomplex, and

said cytotoxic factor is detected and/or quantified by demonstrating the formation of a complex consisting of the heterocomplex and the antibody.

4. The method as claimed in claim 3, according to which the heterocomplex is isolated by means of at least two antibodies that bind specifically to the heterocomplex, and said cytotoxic factor is detected and/or quantified by demonstrating the formation of a complex consisting of the heterocomplex and the two antibodies.

5. The method as claimed in claim 4, according to which at least one of said antibodies is a capture antibody and at least the other of said antibodies is a detection antibody.

6. The method as claimed in claim 2, according to which the heterocomplex is isolated by means of at

least two antibodies, at least one of which binds specifically to GM2AP or mutated GM2AP of the heterocomplex, and at least the other of which binds specifically to MRP14 of the heterocomplex, and said cytotoxic factor is detected and/or quantified by demonstrating the formation of a complex consisting of the heterocomplex and the two antibodies.

7. The method as claimed in claim 6, according to which at least one of said antibodies is a capture antibody and at least the other said antibody is a detection antibody.

8. The method as claimed in any one of claims 2 to 7, according to which the test sample is subjected to a prior treatment comprising:

- a step consisting in digesting the proteins of the sample with proteinase K,

- a step consisting in inactivating the proteinase K, and

- a step consisting in neutralizing the pH.

9. The method as claimed in claim 8, in which the step consisting in inactivating the proteinase K is carried out by precipitation with trichloroacetic acid, and the step consisting in neutralizing the pH is carried out by the addition of a tris-maleate buffer.

10. The method as claimed in any one of claims 2 to 9, in which the biological sample is chosen from serum, plasma, urine and cerebrospinal fluid.

11. A composition for detecting and/or quantifying a cytotoxic factor associated with multiple sclerosis, said cytotoxic factor being chosen from the heterocomplex GM2AP/GM2/MRP14 and mutated GM2AP/GM2/MRP14 in which mutated GM2AP corresponds to the sequence SEQ ID No. 2, characterized in that it comprises at least one antibody that binds specifically

to the heterocomplex.

12. The composition as claimed in claim 11, characterized in that it comprises at least two antibodies that bind specifically to the heterocomplex.

13. A reaction mixture for detecting and/or quantifying a cytotoxic factor associated with multiple sclerosis, said cytotoxic factor being chosen from the heterocomplex GM2AP/GM2/MRP14 and mutated GM2AP/GM2/MRP14 in which mutated GM2AP corresponds to the sequence SEQ ID No. 2, characterized in that it comprises at least two antibodies, at least one of which binds specifically to GM2AP or mutated GM2AP of the heterocomplex, and at least the other of which binds specifically to MRP14 of the heterocomplex.

14. The reaction mixture as claimed in claim 13, characterized in that at least one of said antibodies is a capture antibody and at least the other of said antibodies is a detection antibody.

15. A complex comprising the heterocomplex GM2AP/GM2/MRP14 or mutated GM2AP/GM2/MRP14, said heterocomplex being bound to at least two antibodies, at least one of the antibodies of which is specific for GM2AP or for mutated GM2AP, and at least the other antibody of which is specific for MRP14.